

SUCCESSFUL UNIVERSITIES

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Preamble

Who does not like success? Who would want institutions integral to progressive societies not to succeed? Governments, faculty, students and their families all engage in the process with enthusiasm, good-will and in certain cases adequate funding. Why then is it so difficult to achieve? Are there barriers to entry, particularities or happenstance? Is it like the movie or music industries where repeating a formula rarely delivers? Or is a university like an ecosystem, where only a carefully nurtured and self-propelling environment of sufficient diversity can produce intellectual leviathans and the krill to sustain them?

My own view is it is hard to predict which universities will be successful in the future; however it is certainly easier to identify those factors which will result in problematic progress. Due diligence mitigates failure but warrants no Elysion. To rephrase the opening lines of Anna Karenina¹ All successful universities are alike; each unsuccessful university is unsuccessful in its own way¹.

This paper addresses some of the characteristics of successful universities the author has been involved in over the last 25 years across 3 continents. The perspective is personal, oriented to the STEM-based institutions I have largely engaged with and reflects my own instincts for invention, innovation and wealth-creation being the load-bearing structures of contemporary institutions.

The paper considers firstly the environment within which a university operates and the impact of different student bodies. University branding and the impact disruptive technologies are addressed, followed by the requirements for success in terms of faculty, leadership and finance. It ends with a discussion of the role of valorisation in making a 21st century university a success.

Environment

Whether one considers the monastic and Anglo-Catholic development in the UK of Oxford and Cambridge or their Victorian equivalent Imperial College - the articulation of industrial might as inquiry - or the United States with its land grant institutions harnessing natural resource to nation-building or the Soviet Universities of Lomonosov, Lavrentiev and Sobolev expressing unity of labour and intellect, Universities are defined by their environment.

Any multi-purpose institution exists as a result of a specific environment within which it is inculcated, absorbs and adsorbs. Of course this is not a position of unanimity (Douglass, 2014). However, it seems to me uncontroversial that a successful university is defined by its environment more than the environment is defined by the University.

A western, liberal democracy does not seem to be a prerequisite for success: consider the National University of Singapore, Tsinghua University in China or KAUST in Saudi Arabia. It seems perfectly possible to create impactful and efficient universities in very different societies from their coalescents. Whatever the merits of liberal democratic constitutions, their absence does not inhibit excellence in education.

An international flavour does seem essential. Firstly established talent is scarce; secondly globalisation has commoditised the intellectual world, with researchers, facilities, intellectual property and investment all mobile and seeking the better home for their instincts. Furthermore

from an educational viewpoint, studying and living with people who have a very different perspective from your own is often one of the more lasting effects of attending university.

When I arrived in Kazakhstan, media interviewers spoke to me on the assumption that academic freedom meant electives. Some of my fellow faculty members believed that academic freedom means the right to teach anything and to research anything. Both are mistaken and in being so risk the loss of the most valuable meaning of academic freedom, that is to say, the right of an institution to plot its own intellectual trajectory without undue interference from outside bodies. That is the freedom that enables success and that is the freedom faculty, administration, leadership and stakeholders need stolidly to uphold.

A research university is not an infrastructure project: it is a talent project (Lemann, 2014). You grow it not build it. Of course, talent requires infrastructure to perform but the acquisition and nurturing of talent is by far the hardest act.

A successful research university procures convergence of curiosity; the challenge of leadership is its enablement. The problem is not in plans, people or methods; it's in mindset. Trying to build things that really need to be grown just will not work; no matter how you manage them.

For a university being developed with a largely imported work-force, the challenge of connecting local money to expatriate researcher looms large. In many such countries the lack of confidence that the money will address problems pertaining to legitimate local needs inhibits the creation of academic activity.

Students

Successful universities deliver students who have successful lives before and after graduation. There are many different types of students. The challenge is in distinguishing their needs and enabling experiences.

Universities such as Nazarbayev University have an unashamedly elitist approach. It is hard to be admitted. The programmes are specifically designed to stretch able students, there is little provision for remediation and there are extra graduation requirements including dual language certification and military service (for men). We make this work through small class sizes (typical faculty/student ratio of 9:1), careful pre-selection in our foundation year and an approach that aims to quickly identify those who might not succeed. It's perfectly possible to be a successful university with a different student body. Resources need to be deployed and matched to cohort profile and career aspiration.

Branding

Institutional branding is a 21st century topic for sure. Consumers of higher education understand it well and institutions need to speak the language their stakeholders understand.

Nazarbayev University has taken a specific approach to its branding. It has rejected the Academic City model approach of Qatar, it has declined the branch campus model (e.g. New York University in Abu Dhabi) and forsworn the American University of Someplace' approach. It is taken the courageous decision to define a new brand, a university fit for the challenges of the 21st Century, resolutely international in outlook, yet grounded in the needs of the Kazakh nation and the aspirations of its people.

This undoubtedly offers the higher reward as we demonstrate the confidence of the nation and its capacity to deliver. Higher reward is sometimes associated with higher risk.

Disruption

There is a palpable sense that the transformative power of internet, mobile communications and ubiquitous computing may impact higher education the way it has other well-established businesses. The world of video lectures, MOOCs and open courseware seems more caravanserai

than Samarkand. It is a pointing finger for sure, but let us look at where it is pointing, not at the finger. It speaks to a world of diverse content and where the editorial role is more important than the authorial. A world where text becomes subservient to video and where discourse is preferred over individual insight. The truth is still out there but it more likely to be our collectively-mediated truth rather than yours.

Faculty

Without great Faculty you will not have a great University. While necessary this is not sufficient. While quality of faculty is crucial, it cannot be over-ruling. Universities with strong faculty governance sometimes have difficulty coping with changing landscapes as faculty interest and institutional well-being can seem coterminous despite the lamentations of other stakeholders.

As the landscape seems to be reforming quicker and the demands on universities diversifying, there must be some questions raised as the suitability of a 19th Century model of leadership for a 21st Century world.

When asked what is needed to create a successful university, faculty will sometimes reply along the lines of 'give us low teaching loads, plenty of research money and complete freedom to research whatever we like'. They have got the first two right at least. However, the insistence that if they are guided in any way to direct their activities or express anything other than velleity towards stakeholders (for whom accountability is second nature), their response is often vigorous and sometimes instructive.

Seen in the context of the increasing challenges of knowledge generation in a globally-competitive landscape and where the easy stuff has already been discovered, universities (especially small, start-ups) will struggle to achieve internationally competitive, yet locally-relevant impact without a determined focus on relatively few research areas. Gaining this agreement has often proven elusive.

Successful universities require the careful focus of research activities and the systematic inculcation of global educative values if they are to address world problems and deliver citizens of that same world.

Successful universities have the nurturing of our next generation of talent as their great responsibility. Teaching students is not the counterpoint of research disdain but an intrinsic part of our culture and values. Many research universities in their relentless search for ranking, put in peril this fundamental value of our human-centred institutions. Those who wish only to research need research institutes to embody endeavour. Those who wish to dedicate their efforts to instruction need institutions embracing pedagogics. Those who wish the title of Professor are obligated to consider teaching and research as Frank Sinatra viewed love and marriage².

The distinctive part of the student experience at an elite research university is being taught by people who have not just mastered the subject but defined the very subject itself. While this is increasingly at peril in 2014, the reward for faculty is extra-ordinarily talented graduate students who have the formation and intellectual capacity to pioneer new insights. In contrast, emerging institutions such as Pohang University of Science and Technology³ in Korea, established 25 years ago and which is now well in the top 100 Universities provide an interesting exemplar. Its insistence on high-quality undergraduate teaching and small class sizes (faculty/student ratios of circa 6:1) demonstrates quite clearly the mutually reinforcing effect of a persistent commitment to both teaching and research.

²'You can't have one without the other', Love and Marriage, Cahn/Heusen 1956.

³<http://www.postech.ac.kr/>

Leadership

Perhaps unfairly, university Leadership has been described as embodying impotency. Indeed, it has been said that in the traditional faculty-led model of universities, the role of leadership is to hand out certificates and pour drinks for sponsors. Things have changed because things have needed to change. Millennials no longer see entering university as privilege, it is a consumer purchase. It is weighed and judged in much the same way as other purchases by fluent and nuanced interpreters of sign, symbol brand and value. For faculty, a life of careful contemplation has been replaced by the archons and institutors of tenure, impact, h-index, quality audits, outreach and inclusion. For financial officers, a regular governmental allocation has been sometimes augmented (but more usually replaced) by endowment, fees and valorisation.

Mark Field, former CEO of Ford, once famously remarked "Culture eats Strategy for Breakfast". While its appetite cannot be foresworn, the consequences of a poor diet are conspicuous. In an environment as subject to cogent critique and dissent like perhaps no other modern enterprise, the importance of strategy as searchlight is constitutive.

The challenge with most university strategies is homogeneity. To a tome they present the same approach, the same issues of excellence, engagement with industry and community and the klaxons of impact and IP. Diversity appears absent across university strategies.

Leadership of universities is acutely difficult. Business leaders find the independent and querulous culture difficult to align with strategic and operational plans. Senior academics face skill set insufficiencies for an organisation with annual turnovers of hundreds of millions of dollars. Political appointees wax and wane in influence as power shifts. Increasingly effective leadership requires a well-defined and integrated teamset, covering cheerleaders in the community, academic excellence, efficient organisational management and commercial acumen. It is important to let those who know what they are doing, do what they know.

US universities, with their mixture of Chancellor, President, Provost and CFO, get close to the idealised skill mix. Certainly European universities with an often-elected Rector and Deans seem singularly ill-equipped for the challenges of our Century.

Finances

Research universities need money. Money does not suffice, effective use of that resource determines future success. A report⁵ pointed out that in terms of research outputs the top 40 institutions of the world were often buttressed by significant endowments. In places 40-80 were a number of newer universities who seemed capable of producing a highly-rated research output for significantly less resource than established ones.

While this review was intriguing in nature and may well be a pointing finger, it is not conclusively a smoking gun. Newer universities may have more up to date and efficient infrastructure it is true, they may make more specific demands on faculty, they may also have a management structure more suited to the needs of consumer-led 21st century. However it may be that legacy issues of departments past their prime, inhibit productivity.

Whatever the reasons, over a longer-term those institutions which deliver most citations for their cents, are gradually going to dominate the rankings. It's a question of when not whether.

Being in favour of the inevitable is an accepted strategy for surviving and hopefully prospering. How then should a successful university (a) acquire resources (b) allocate resources and (c) utilise the subsequential outputs most effectively in order to compete?

⁵ Mark Ford 2006, attributed by him to Peter Drucker but no reference to this is found in Drucker's work.
<http://www.timeshighereducation.co.uk/world-university-rankings/2013-14/world-ranking/analysis/upward-mobility>

While most universities will claim to possess some form of academic freedom and/or institutional autonomy, rare is the institution free from government financial support. As 18-year olds rapidly discover, you are not entirely autonomous when someone else pays all your bills.

A diverse funding base is essential to a successful university. The three main sources of funding are (a) Foundation, (b) Fees, (c) Research and Exploitation. Over dependence on anyone of these three, leaves an institution vulnerable to encroachment on its institutional autonomy.

Only through a diverse funding base can an institution have the freedom to demonstrate it knows what is best for itself. Once this is achieved the challenge moves onto demonstrate the value it delivers from that.

Valorisation

As someone who has been an investor in start-ups and advised many governments on extracting value from inventions I can confirm that universities overvalue their IP in the short term and undervalue it in the long term. A single patent is rarely a powerful tool, defensive patenting can render it innocuous. However overyears if a university holds a portfolio of related and reinforcing patents, that in itself can represent a significant asset against which resource can be obtained.

A commonly held misconception is that the key to deriving value from university work above and beyond publication is to implement the system found in the United States of America (the West-Side Story theory⁶) while there is much to admire in that approach, imitation is rarely persuasive or appealing, rather it should be seen as inspiration.

Value creation exists within an ecosystem of capital, business support, IP policies, law and taxation. Any utilization strategy incognisant of that seems unlikely to flourish. Indeed a recent paper by the UK think tank Demos demonstrates how the US-pioneered science park approach, rarely results in success (Nightingale and Coad, 2014).

Successful universities are powerhouses of economic development; they are cause and consequence of prosperity. They do this through their established role of formation. However, it is in the generation and exploitation of intellectual property via license and start-up that some believe employment is created. However reality seems different. The UK spends \$12M per year on supporting small innovative firms. There's no Google yet though. Even in the USA, MIT makes more money from T-shirt sales than licensing.

One may believe that capturing value through IP is easy and that inventions emerge fully formed from universities. The reality is different. University spinouts do not understand markets and do not have the resources to develop products. Do not judge universities by their short-term commercialisation of their IP; some will be found wanting.

University science parks are services to the community and reflect universities trying to signal research prestige (Monck, 1988). What universities can do and do well is to provide high-quality manpower, provide a place where high-tech firms like to be based, offer access to shared facilities and thereby create a cluster effect which sparks new value chains.

Summary

In the space allocated to me, I have attempted to deliver a wide-ranging and engaging overview of key issues pertaining to the delivery of a successful university. A supportive political setting, diverse funding, nuanced leadership and outstanding faculty are certainly essential to success. Supporting all this is the collective self-confidence to proclaim the values of a

⁶ *7 like to be in America!, O.K. by me in America!, Ev'rything free in America', America'* from West Side Story, Librettist Arthur Laurents, 1957.

university, traditional values they may be but they need to be set in a modern context to be appreciated.

Persistence is in the end, the underpinning value of successful universities. After all as Thomas Edison said, 'the three great essentials to achieve anything are (a) hard work, (b) stick-to-itiveness and (c) common sense'.

I am confident that given the current policies of Kazakhstan and the commitment of the people of this nation that Nazarbayev University and indeed other Kazakhstani universities will succeed but for certain it will take time and much effort.

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